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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/756,073

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EXAMINER

KUMAR, PANKAJ

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

05/30/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/756,073

Applicant(s)

LEE ET AL.

Examiner

Pankaj Kumar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 1-36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 1-36 are objected to because of the following informalities in claims 1, 10, 19, and 28: "a received signal" should probably be 'the received signal' since it seems to refer to the received signal recited earlier. Appropriate correction is required.

Allowable Subject Matter

2. The following is a statement of reasons for the indication of allowable subject matter: The art of record does not suggest the respective claim combinations together and nor would the respective claim combinations be obvious with:

3. As per claims 1-9: (b) producing a normalized value of a received signal on a channel-by-channel basis using orthogonality between the OFDM signals received by the receiving side, the normalized value of the received signal being produced by a predetermined equation; (c) producing at least one subsequent sequence estimation value using the initial sequence estimation value and the normalized value of the received signal on the channel-by-channel basis; (d) if the at least one subsequent sequence estimation value converges to a constant value; wherein the predetermined equation is given by: [equation in claim 1 with its defined variables]

4. As per claims 10-18: a normalizer for producing a normalized value of a received signal on a channel-by-channel basis using orthogonality between the OFDM signals received by the receiving side, the normalized value of the received signal being produced by a predetermined equation; and a sequence estimator for producing at least one subsequent sequence estimation value using the initial sequence estimation value and the normalized value; if the at least one

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subsequent sequence estimation value converges to a constant value; wherein the predetermined equation is given by: [equation in claim 10 with its defined variables]

5. As per claims 19-27: (b) producing a normalized value of a received signal using the initial sequence estimation value, the normalized value of the received signal being produced by a predetermined equation; (c) producing at least one subsequent sequence estimation value using the initial sequence estimation value and the normalized value of the received signal; if the at least one subsequent sequence estimation value converges to a constant value; wherein the predetermined equation is given by: [equation in claim 19 with its defined variables]

6. As per claims 28-36: a normalizer for producing a normalized value of a received signal using the initial sequence estimation value, the normalized value of the received signal being produced by a predetermined equation; and a sequence estimator for producing at least one subsequent sequence estimation value using the initial sequence estimation value and the normalized value; if the at least one subsequent sequence estimation value converges to a constant value; [equation in claim 28 with its defined variables]

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Thomson USPN 7173972 is in the area of OFDM, sequence estimation, subsequent sequence estimation, normalization.

8. This application is in condition for allowance except for the following formal matters:
Claim objections above.

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Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pankaj Kumar whose telephone number is (571) 272-3011. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Pankaj Kumar
Primary Examiner
Art Unit 2611

PK